



Dr. Isabel del Pozo
EHA Technical Expert

EASA Rotorcraft Symposium, 5-6 December 2017, Cologne

Agenda

- EHA – Who We Are & Our Mission
- Overview on Rotorcraft Missions & Situation
- Rotorcraft Operational Needs & Challenges
- Understanding the Need for Low Level IFR Routes
- Moving Towards Safer Scenarios for the Rotorcraft Community
- Conclusions

European Helicopter Association (EHA)

EHA is the Rotorcraft Operator voice in Europe

EHA



HeliOffshore
Safety Through Collaboration

AMAC (Associate Members Advisory Council)



Affiliated Member



European Helicopter Association (EHA)

Mission

1. Recognition of the rotorcraft's unique capabilities
2. Tailored and sustainable rules
3. Equal access to the given Airspace

Current Rotorcraft Missions



HELICOPTER AIR AMBULANCE
(HEALTH SECTOR)



SEARCH AND RESCUE



POLICE



FIRE FIGHTING
(CIVIL PROTECTION)

**26,5 Billion € Gross
Value Added (GVA)***

Global turnover (mil €)
7.535

N° Employees
35.000



OIL AND GAS
(ENERGY SECTOR)



AIR TAXI/CHARTER
(BUSINESS SECTOR)



AERIAL WORK

*Data source: year 2014

Current Rotorcraft Scenario



Highest technology standards



No appropriate infrastructure

- Authorities have been mainly focused on fixed-wing market
- Rotorcraft operations are still not equally well integrated in the current airspace framework

Rotorcraft Operational Needs and Challenges

■ NEEDS

1. IFR access to VFR Final Approach and Takeoff Areas (FATOs)
Point-in-Space (PinS) RNP approaches/departures procedures to/from heliports
2. Rotorcraft integration in dense/constrained airspace
Specific Low Level IFR routes (LLR)
3. Rotorcraft access to busy airports
Simultaneous-Non-Interfering (SNI) rotorcraft

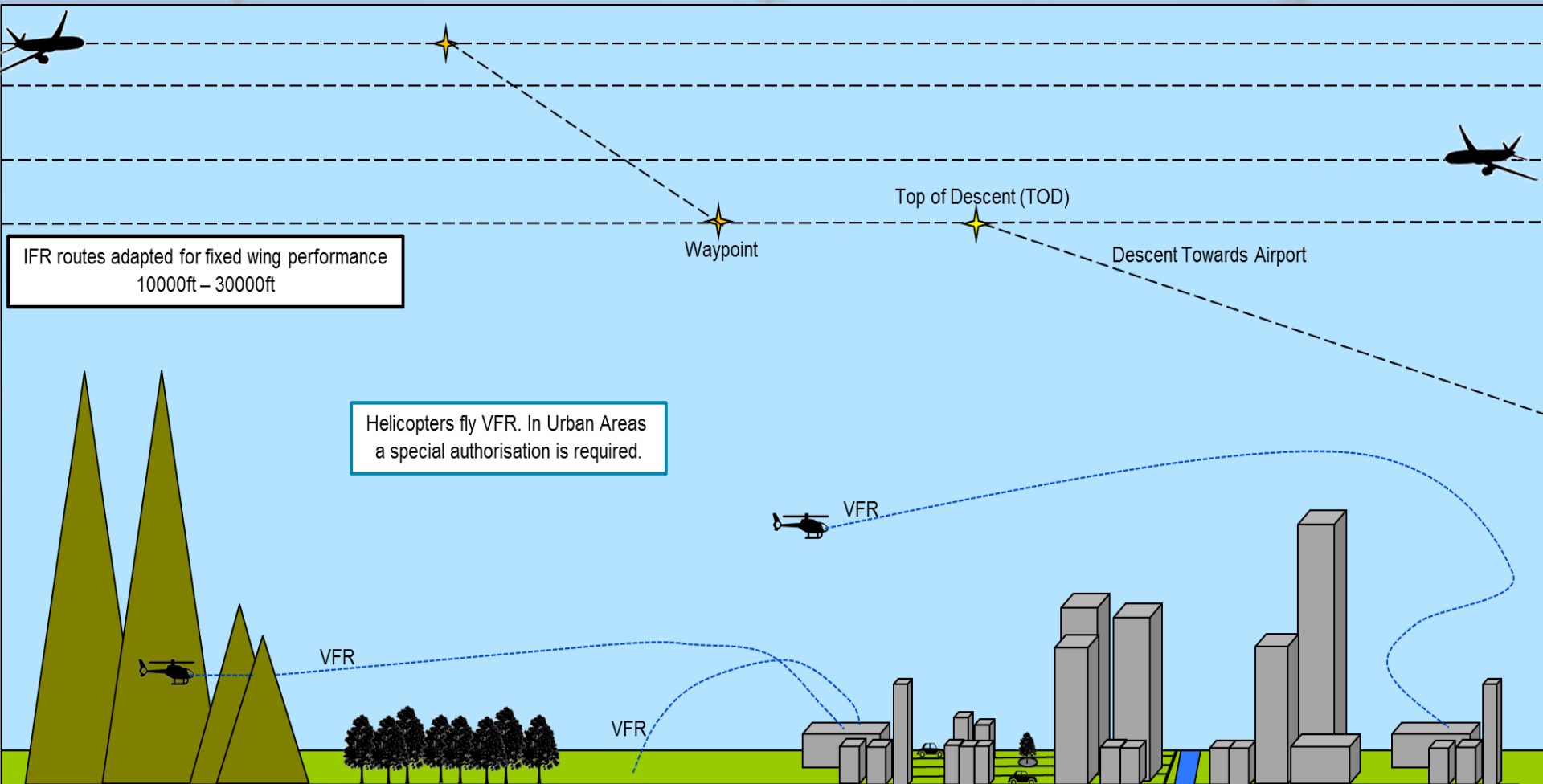


■ CHALLENGES

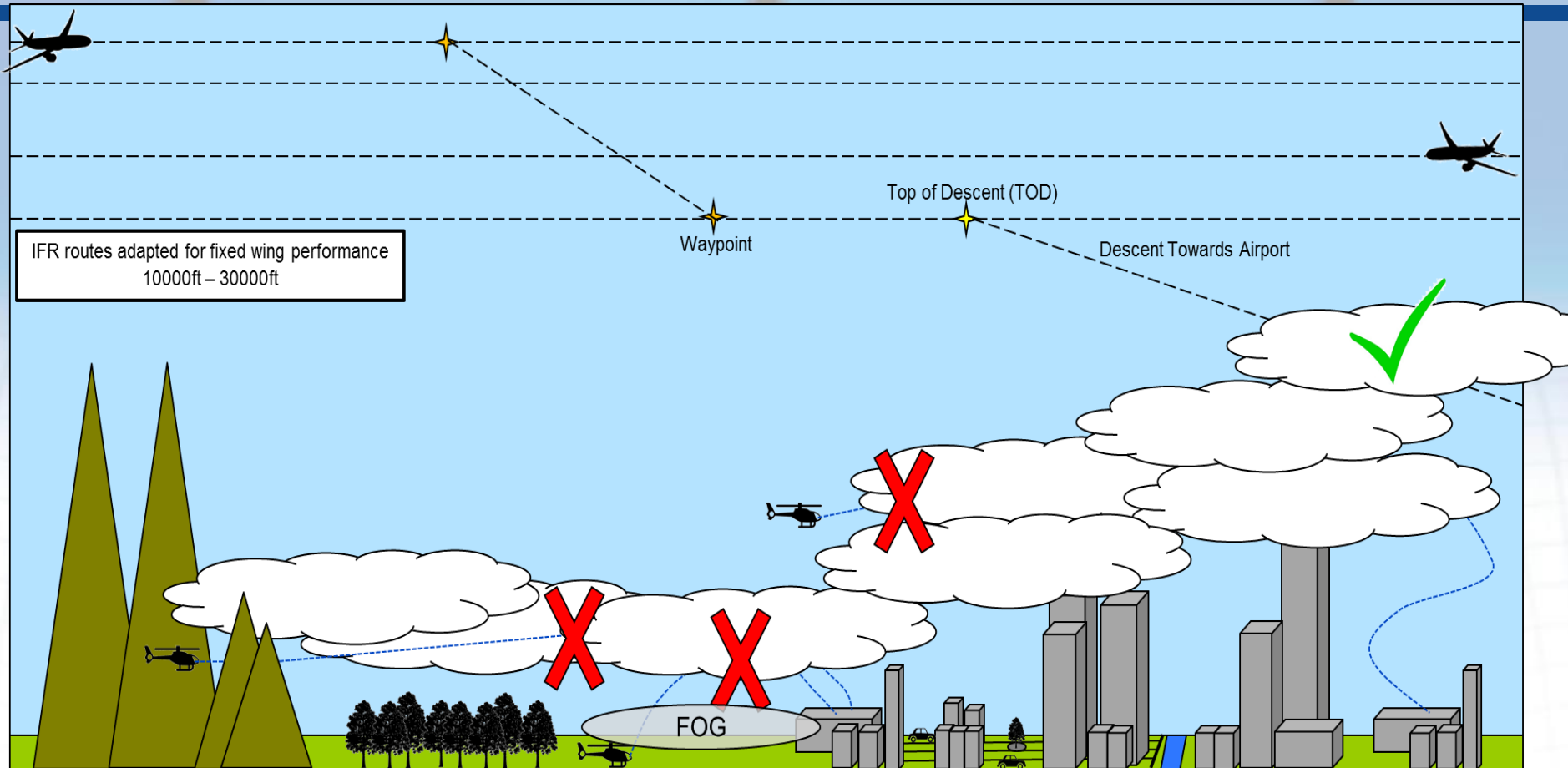
- a) Latest RC have the **Highest Technology Standards**: Satellite based navigation, 4-Axes Autopilot, LPV certification, Steep Approaches up to 9,9°
- b) Rotorcraft **Operators Need to operate 24/7**: Operations in all weather situation (VMC and IMC)

→ **Problem: Lack of rotorcraft adapted procedures**

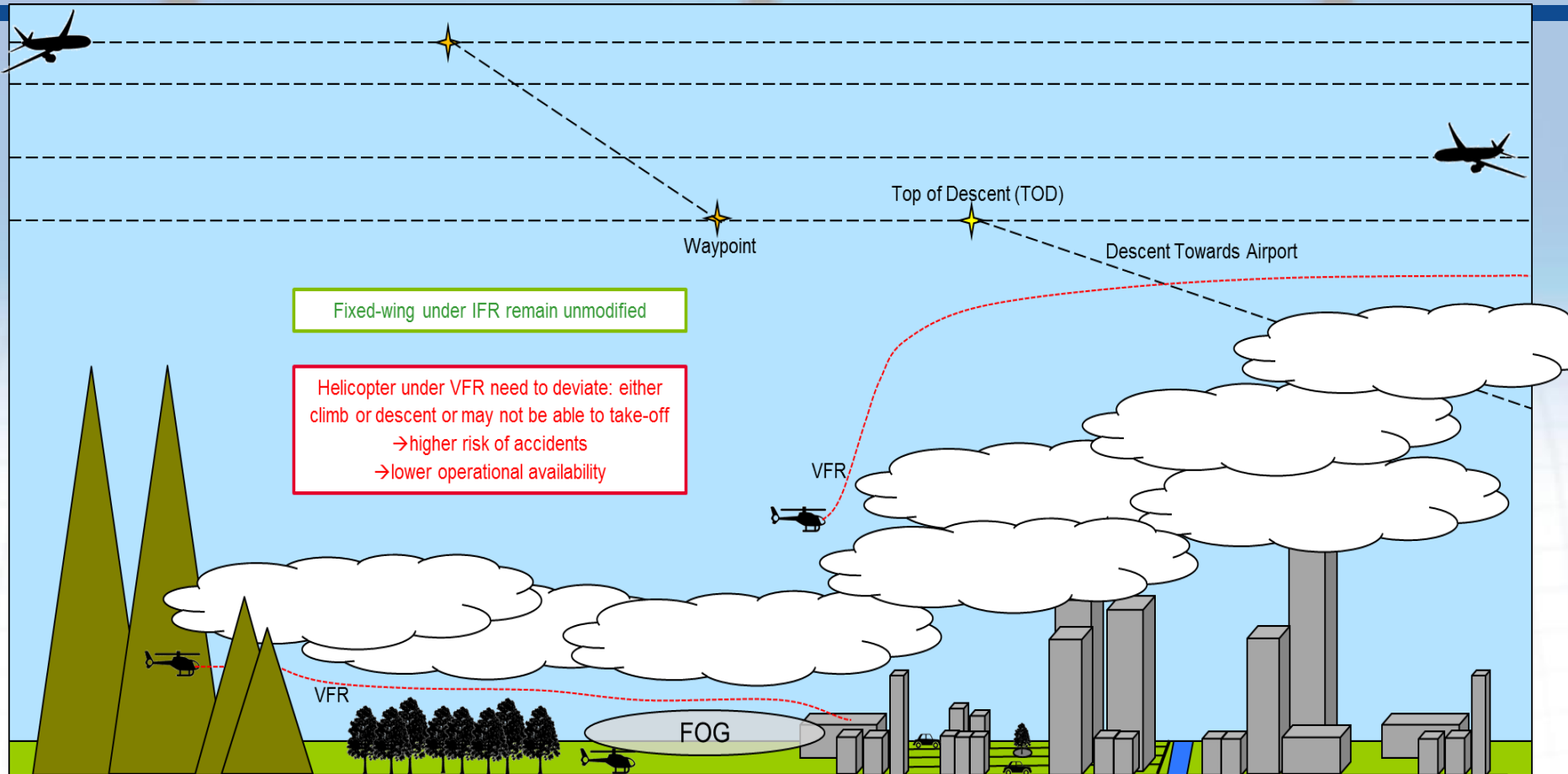
Understanding the Need for Low Level IFR Routes



Understanding the Need for Low Level IFR Routes



Understanding the Need for Low Level IFR Routes



Understanding the Need for Low Level IFR Routes

Why do we need IFR routes for helicopters?

- a. Increase operational availability → towards 24/7 operations
- b. Increase automation of flight during the en-route phase
- c. IFR routes support reliable and precise navigation at lower altitudes and nearby obstacles
 - reduces the number of accidents due to CFIT and iIMC
- d. IFR routes reduce the uncertainty of rotorcraft position and flight intention/ trajectory
 - increases the planning capability to accommodate high demand
- e. IFR routes help defining effective safety contingency procedures

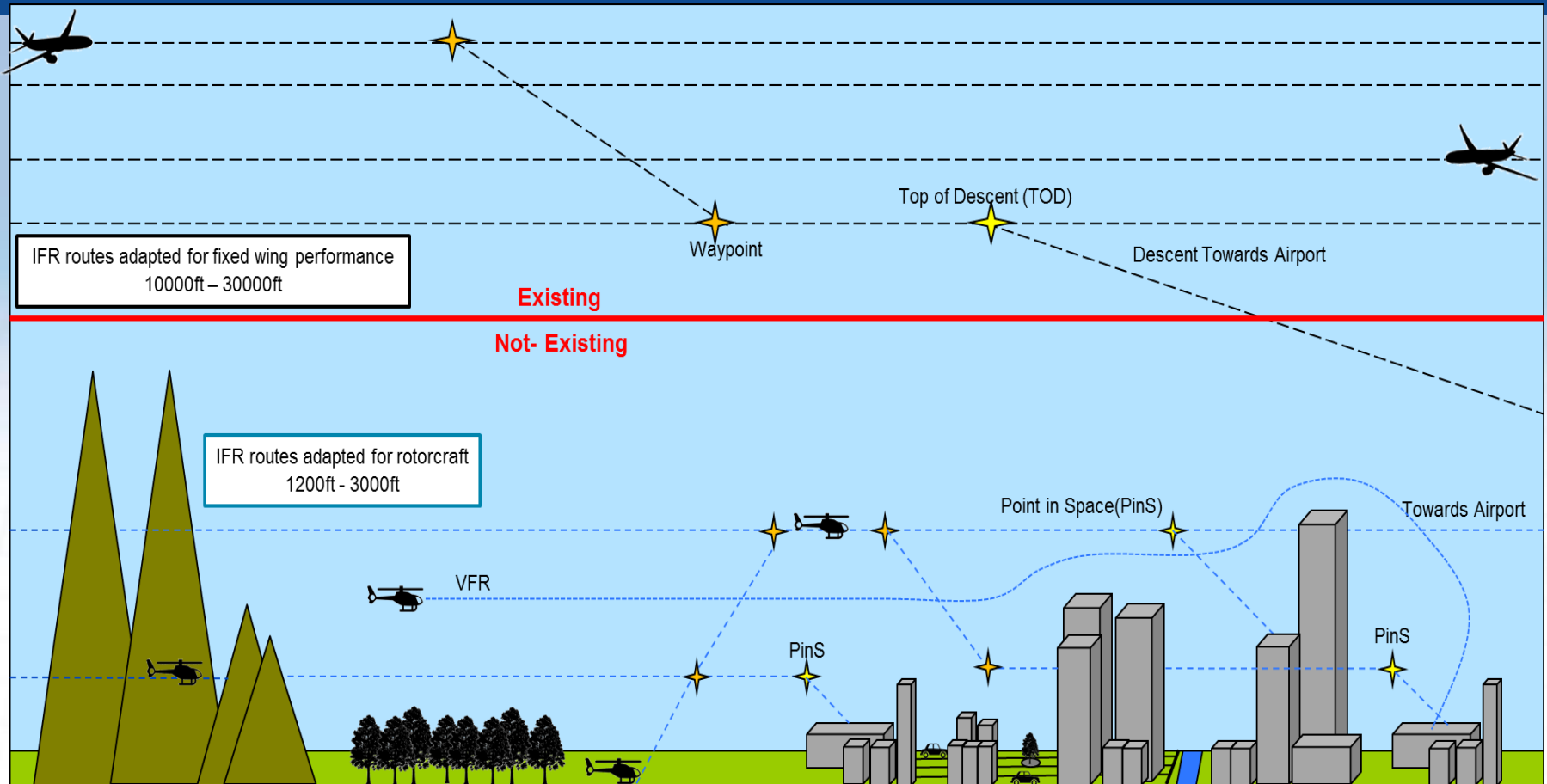
Moving Towards Safer Scenarios for the Rotorcraft Community

Step-wise approach

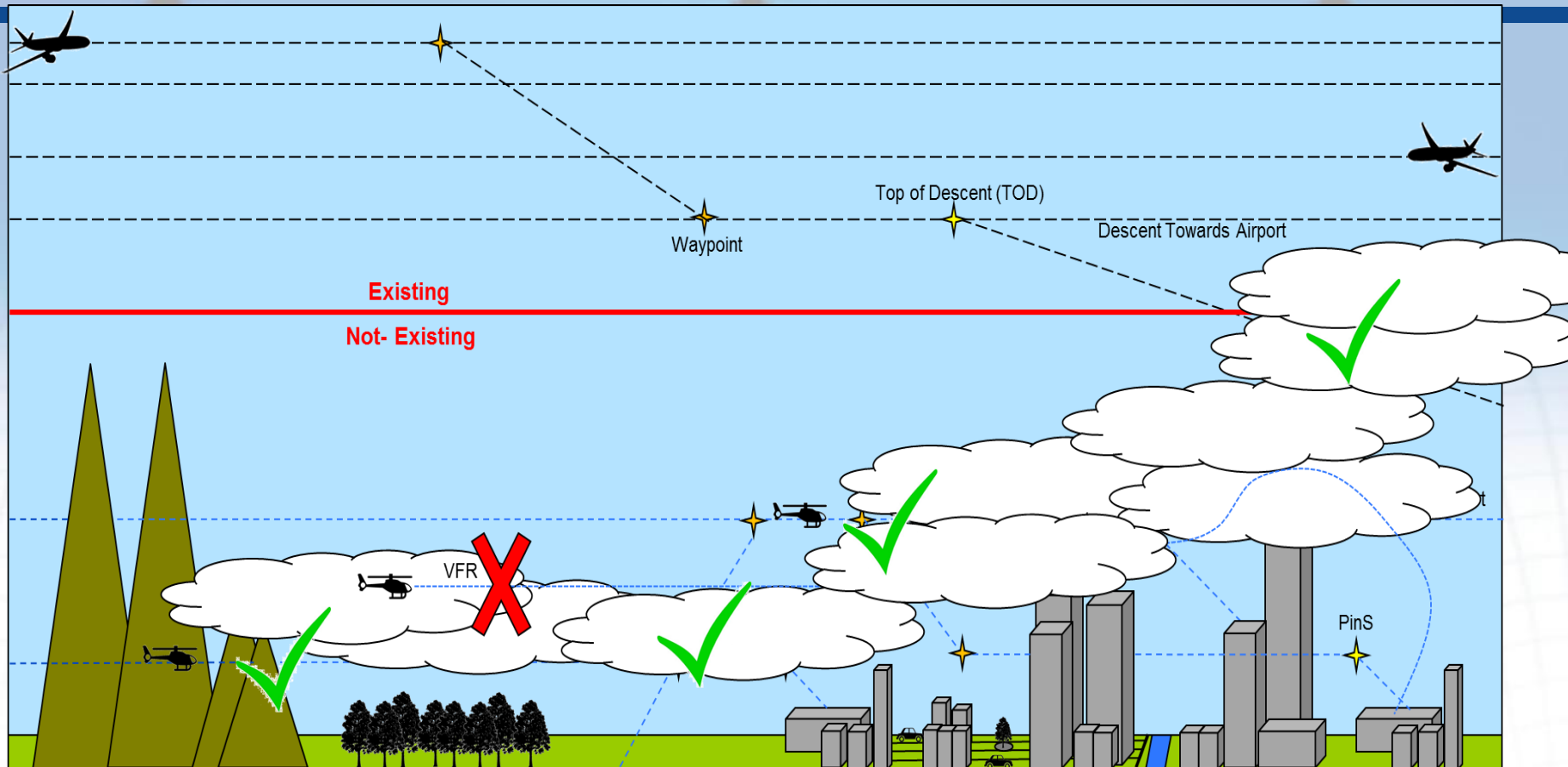
- Design IFR routes according to rotorcraft performance
 - Performance Based Navigation (PBN) concept
- Low Level IFR routes at helicopters en-route operational altitudes
 - RC en-route altitude and RNP1/0.3
 - Low level IFR routes between 6000ft and 3000ft in controlled airspace
 - Low level IFR routes between 3000ft and 1500ft in controlled + uncontrolled airspace
- Rotorcraft adapted take-off and landing procedures
 - Point in Space
 - Advance Point in Space (Steep approach up to 9,9°, turns after FAP)
- Narrow the safety margins to pave the way for future operations
 - from RNP1 to RNP-AR or similar concepts

→ **It has to be a global approach: equivalent milestones required all around the world**

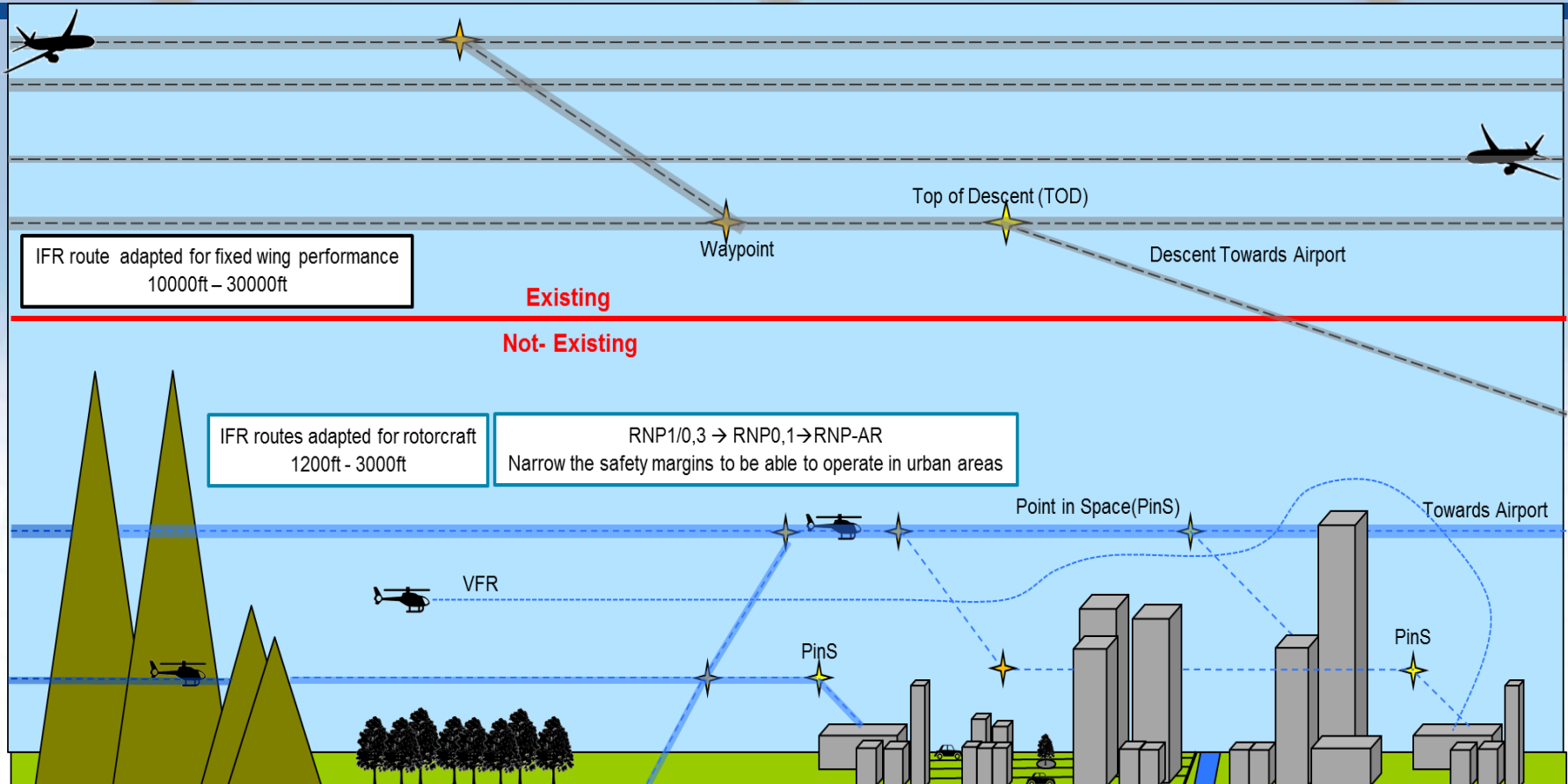
Moving Towards Safer Scenarios for the Rotorcraft Community



Moving Towards Safer Scenarios for the Rotorcraft Community



Moving Towards Safer Scenarios for the Rotorcraft Community



Conclusions

Safety & Operational Benefit

Low Level IFR routes bring safety benefits to rotorcraft operations:

- Support reliable and precise navigation at lower altitudes and nearby obstacles
→ reduces the number of accidents due to CFIT and iIMC
- Enable operations in IMC (i.e. low cloud ceiling, smog, night, etc)
→ move towards 24/7 operations
- Rotorcraft need to be equipped with latest technology (e.g. 4 axis autopilot)
- IFR routes reduce the uncertainty of rotorcraft position and flight intention/ trajectory
→ increases the planning capability to accommodate high demand
→ paves the way for future traffic mix in low level airspace (RC vs Drones)

→ The level of qualification of helicopter pilots needs to evolve accordingly (from VFR pilots to IFR pilots with the adequate recurrent training)

Conclusions

Safety & Operational Benefit

Further concepts have to be developed for an equal integration of rotorcraft in the Single European Sky

- Advanced PinS procedures for approaches and departures
- Concept adaptation of RNP-AR

Procedures need to capture:

- Rotorcraft operational needs
- Exploit the rotorcraft unique performance capabilities



Thank You